

Title (en)
BLOW-MOLDED FOAM AND PROCESS FOR PRODUCING THE SAME

Title (de)
BLASGEFORMTER SCHAUM UND VERFAHREN ZU DESSEN HERSTELLUNG

Title (fr)
MOUSSE MOULEE PAR SOUFFLAGE ET PROCEDE DE FABRICATION

Publication
EP 1072389 A4 20010131 (EN)

Application
EP 98955975 A 19981127

Priority
• JP 9805361 W 19981127
• JP 34382997 A 19971128

Abstract (en)
[origin: WO9928111A1] Hollow blow-molded foams are obtained by extruding a molten resin containing a foaming agent by means of an extruder to form a cylindrical foamed parison and disposing the parison in a mold to conduct blow molding. The above process has, however, failed in providing molded articles having a high expansion ratio and a large wall thickness, when the base resin used is a polypropylene resin. The process of this invention employs a base resin consisting mainly of a polypropylene resin and having a melt tension (MT) at 230 DEG C of 10 gf or higher and a melt flow rate (MFR) of 0.5 g/10 min or higher. The process comprises adding a foaming agent to the base resin, melt-kneading the mixture at high temperature and high pressure with an extruder to give a foamable melt, extruding the melt through an annular die (5) and foaming the same to form a cylindrical foamed parison (4), subsequently closing molds (6, 6) to hold the soft parison (4) in the molds, and then blowing pressurized air from an air blowing nozzle (7) into the parison (4) to blow-mold it into a hollow shape conforming to the molds.

IPC 1-7
B29C 49/04; **B29C 49/22**

IPC 8 full level
B29C 49/04 (2006.01); **B29C 49/22** (2006.01)

CPC (source: EP KR US)
B29C 49/0005 (2013.01 - KR); **B29C 49/04** (2013.01 - EP US); **B29C 49/22** (2013.01 - EP KR US); **C08J 9/00** (2013.01 - KR); **B29K 2023/12** (2013.01 - KR); **B29K 2105/04** (2013.01 - EP US); **Y10T 428/249981** (2015.04 - EP US); **Y10T 428/249987** (2015.04 - EP US); **Y10T 428/249988** (2015.04 - EP US); **Y10T 428/249991** (2015.04 - EP US); **Y10T 428/249992** (2015.04 - EP US)

Citation (search report)
• [E] WO 9932544 A1 19990701 - TREXEL INC [US], et al
• [E] WO 9853986 A1 19981203 - TETRA LAVAL HOLDINGS & FINANCE [CH], et al
• [A] WO 9619384 A1 19960627 - WELLA AG [DE], et al
• [A] WO 9611216 A1 19960418 - BOREALIS AS [DK], et al
• [A] DATABASE WPI Section Ch Week 199445, Derwent World Patents Index; Class A32, AN 1994-363113, XP002151771
• [A] DATABASE RAPRA ABSTRACTS RAPRA TECHNOLOGY LTD., SHAWBURY, SHREWSBURY, SHROPSHIRE, GB; 1990, XP002151769 & "Air ducts are vacuum formed on a blow moulding machine", MODERN PLASTICS INTERNATIONAL, vol. 20, no. 2, - 2 February 1990 (1990-02-02), pages 12 - 13
• [A] DATABASE RAPRA RAPRA TECHNOLOGY LTD., SHAWBURY, SHREWSBURY, SHROPSHIRE, GB; XP002151770 & "blow moulding now possible in PP foam", BP & R. BRITISH PLASTICS AND RUBBER., - October 1997 (1997-10-01), MCM PUBLISHING, LONDON., GB, pages - 45, ISSN: 0307-6164
• See also references of WO 9928111A1

Cited by
EP1403027A3; EP1844919A4; CN105814125A; EP3039063A4; US7014801B2; US7727606B2; US10633139B2; WO2005102668A2; WO2005102668A3; US10350812B2; US10576679B2; US10792851B2

Designated contracting state (EPC)
AT BE CH DE DK ES FI FR GB IT LI LU NL SE

DOCDB simple family (publication)
WO 9928111 A1 19990610; AU 1262299 A 19990616; EP 1072389 A1 20010131; EP 1072389 A4 20010131; EP 1072389 B1 20131225; JP 3745960 B2 20060215; KR 100577033 B1 20060508; KR 20010032537 A 20010425; US 6432525 B1 20020813

DOCDB simple family (application)
JP 9805361 W 19981127; AU 1262299 A 19981127; EP 98955975 A 19981127; JP 2000523057 A 19981127; KR 20007005780 A 20000526; US 55451400 A 20000517